

Diabetic ulcers: The most common cause of lower extremity amputation.

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Abstract

Diabetes ulcers are the most prevalent foot injuries that result in lower extremity amputation. Family physicians play an important role in the prevention and early detection of diabetic foot problems. Diabetic foot management necessitates a full understanding of the key risk factors for amputation, as well as frequent routine inspection and rigorous preventative maintenance. The most prevalent risk factors for ulcer formation include diabetic neuropathy, structural foot deformity, and peripheral artery occlusive disease.

Keywords: Diabetic ulcers, Diabetic foot management, Diabetic neuropathy, Peripheral artery occlusive disease.

Introduction

A thorough physical examination, supplemented by monofilament testing for neuropathy and noninvasive testing for vascular insufficiency, can identify people at risk for foot ulcers and classify those who already have ulcers or other diabetic foot problems. Patient education about correct foot hygiene, nail care, and footwear is critical for lowering the chance of an accident that can lead to ulcer formation. Adherence to a rigorous regimen of diagnosis and classification can improve communication between family physicians and diabetes subspecialists, allowing for more effective management of complications. This collaborative strategy may eventually lead to a reduction in diabetes-related lower extremity amputations [1].

Diabetes foot ulceration is gaining attention due to the high amputation and fatality rate. Following any modification in diabetic foot care management, it is critical to establish the frequency of amputations in patients with diabetes. The current study aims to compare the frequency of lower-extremity amputations in diabetic foot ulcer patients over a ten-year period. The vast majority of diabetic foot issues that lead to amputation begin with skin ulcers [2]. Early detection and treatment of these ulcers can save up to 85% of amputations [3]. 6,7 Indeed, one of the disease preventive goals set in the US Department of Health and Human Services' "Healthy People 2000" project is a 40% reduction in the amputation rate for diabetic patients. Family physicians play an important role in ensuring that diabetic patients receive prompt and appropriate treatment for skin ulcers.

Risk factors for lower extremity amputation in the diabetic foot

- Absence of protective sensation due to peripheral neuropathy.

- Arterial insufficiency.
- Foot deformity and callus formation resulting in focal areas of high pressure.
- Autonomic neuropathy causing decreased sweating and dry, fissured skin.
- Limited joint mobility.
- Obesity.
- Impaired vision.
- Poor glucose control leading to impaired wound healing.
- Poor footwear that causes skin breakdown or inadequately protects the skin from high pressure and shear forces.
- History of foot ulcer or lower extremity amputation.

Occlusive peripheral artery disease

Diabetics are four times more likely than non-diabetics to have peripheral artery occlusive disease. The tibial and peroneal arteries are frequently involved in arterial occlusion, but the dorsalis pedis artery is spared. Smoking, hypertension, and hyperlipidaemia are all known risk factors for diabetic peripheral artery occlusive disease. A combination of clinical indications and symptoms, as well as aberrant results on non-invasive vascular testing, suggests the presence of lower extremity ischemia [4]. Claudication, pain in the arch or forefoot at rest or during the night, absent popliteal or posterior tibial pulses, thinned or shiny skin, absence of hair on the lower leg and foot, thickened nails, redness of the affected area when the legs are dependent, or "dangled," and pallor are all signs and symptoms. Transcutaneous oxygen measurement, the ankle-brachial index (ABI), and absolute toe systolic pressure are all non-invasive vascular measures.

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The ABI is a non-invasive test that can be easily administered in the office with the help of handheld Doppler equipment. A blood pressure cuff is put on the upper arm and inflated until the Doppler equipment detects no brachial pulse. The cuff is then gradually deflated until a Doppler-observed pulse is detected (the systolic pressure). This operation is performed on the leg, but this time the cuff is wrapped around the distal calf and the Doppler device is positioned over the dorsalis pedis or posterior tibial artery. The ABI is calculated by dividing the ankle systolic pressure by the brachial systolic pressure [5].

The sensitivity and specificity of non-invasive vascular tests are a matter of some controversy. Commonly accepted abnormal values for transcutaneous oxygen measurement. The non-invasive tests have been faulted for underestimating the severity of arterial insufficiency. If lower extremity ischemia is strongly suspected, arteriography or some other imaging study should be performed to confirm or rule out ischemia.

Conclusion

Recognition of risk factors, preventive foot maintenance and regular foot examinations are essential in preventing foot ulcers in patients with diabetes. When foot ulcers develop

despite preventive measures, a systematically applied regimen of diagnosis and classification, coupled with early and appropriate treatment, should help to reduce the tremendous personal and societal burden of diabetes-related amputations.

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